

Researching and Communicating the Value of Provincial Parks

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Abstract

In 1995 a study was undertaken to assess the World Commission on Protected Areas (WCPA) Guidelines for Protected Area Managers—Economic Values of Protected Areas in reference to Awenda Provincial Park in Ontario. This paper presents an outline of the method used and economic estimates of Awenda Provincial Park to the local area. Through the course of this research there arose issues related to the valuation of natural areas in economic terms. These issues include the method by which the research is undertaken, the data considered in the evaluation, the scope of the research project, the intended purpose of the results, and the way in which the results are communicated. The study of the WCPA Guidelines therefore offers insights into how parks can be valued, and the ways in which these values can be communicated on a day to day basis with both park patrons and taxpayers in general.

Introduction

As demonstrated in the topics of many of the papers presented at the 1999 Parks Research Forum of Ontario, parks and protected areas make significant contributions to social, economic, cultural, and biological aspects of the local and national community. The challenge continues to lie in the communication of the services, functions, or values associated with parks or protected areas to interested and affected parties. This paper arose from research initially undertaken in 1995 for a Masters of Environmental Studies (MES) Thesis in Geography at Wilfrid Laurier University. The study began as an application of a set of guidelines for valuing parks and protected areas in economic terms to Awenda Provincial Park in Ontario. Over time the project evolved, encompassing a comparison of the Awenda study to other economic studies undertaken in Canada. The purpose of the comparison was to facilitate a more complete understanding of the guidelines being applied, and to illustrate the process of undertaking such research, and comparing results.

This paper will: introduce the *Commission for National Parks and Protected Area Guidelines* (renamed *World Commission on Protected Areas*) and Awenda Provincial Park in Ontario; present the results of the application; and discuss the comparison of these results to other studies in Canada.

Summary of the Awenda Provincial Park Study

Background and Motivation

In recent years park managers and others concerned about protected areas have become more and more interested in developing ways of placing an economic value on the various services or functions of protected areas. This concern has arisen primarily due to the growing pressure on existing or candidate protected

areas from forestry, mining or other uses.¹ Ways of estimating the economic values of these uses have been available and applied for many years (Van Dieren 1979; Panella 1991; Davis 1990). This has not been the case to the same extent for protected areas, so that park managers and others interested in protected areas generally do not have the means or information to present the economic values of protected areas in comparison with those usually available for other competing uses of land.

In response to this situation the *Commission for National Parks and Protected Areas* (CNPPA) of the *International Union for the Conservation of Nature*—now called the *World Commission for Protected Areas* (WCPA)—decided to develop ways of estimating the economic values of protected areas. CNPPA was primarily interested in developing a method that was relatively simple in theory and practice—one that could be used by a park manager or superintendent with limited training, financial and other resources, and time. The idea was to give the manager a tool to be able to show relatively quickly that parks and protected areas had economic or financial values—that they produced economic benefits of various kinds in the same general way as forestry or other industries. Basically the interest was in an initial or strategic evaluation of the economic value or values of parks or protected areas, so that this could be used to avoid loss through lack of awareness on the part of public officials, citizens, and decision makers generally. More detailed evaluation could come later as time, resources and circumstances permitted.

The CNPPA Guidelines

CNPPA therefore decided to prepare economic evaluation guidelines which could be made widely available to parks people and could also be used easily by relatively inexperienced people. The guidelines are made up of fourteen steps which are highlighted briefly in Table 1.

The Awenda Provincial Park Study

The CNPPA guidelines became available in 1996. At the time of commencement of the Awenda park study, the guidelines were not known to have been used in Canada, and there was considerable interest in trying them out. The decision was made to apply the guidelines to Awenda Provincial Park to test their usefulness.

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| <ol style="list-style-type: none"> 1. Decide on target audience. 2. Identify funding and resources. 3. Locate specialists. 4. Decide on variables of interest to target audience. 5. Decide on indirect and induced effects to be calculated. 6. Decide on layout of output. 7. Decide on social and other factors to be included. 8. Decide on structure of report. 9. Identify activities leading to financial transactions. 10. Conduct research to support each financial transaction and impacts. 11. Apply valuation module for each physical impact identified. 12. For each valuation module process results into financial value data. 13. Calculate indirect and induced impacts for each direct impact. 14. Aggregate direct and indirect data into total results. |
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Table 1: Recommended Decision Path (Source: IUCN 1996: 19).

The test was to be a limited one which was to be completed as part of a MES Thesis in Geography. In this situation the time and resource constraints seemed not dissimilar to those faced by a park manager wishing to apply the guidelines to his/her protected area.

Awenda Provincial Park on the Georgian Bay south shore near Penetanguishene and Midland, was chosen as the case study area for several reasons. The Ontario Parks agency was interested in the CNPPA guidelines and was supportive of an economic evaluation of an Ontario park such as Awenda. Awenda was also of interest since it was relatively close to Wilfrid Laurier University and the University of Waterloo, and within the working area of the researcher. Awenda also seemed to be an appropriate and manageable size (2917 ha) and had the forests, beaches, and other features which were attractive to visitors from Toronto and other nearby urban centres (73119 visitors in 1994: OMNR 1994: 21). Awenda is also located some distance from other comparable parks, so that it is an attraction for recreation, tourism, and other purposes more or less in its own right. Of importance also was the availability of relevant visitor and other data collected most recently by Ontario Parks (1994).

The Results of the Awenda Study

This study was undertaken more or less as it would have been by a park manager in the spirit of the CNPPA guidelines. The target audience for the results was and is park managers and other likely users including the CNPPA with its interest in facilitating economic evaluations of parks and protected areas. This also includes non-government organizations, as well as public agencies and other groups involved in planning, management, and decision making for protected areas. The results of the study should also be useful for researchers, educators, and human development personnel in the park and protected area field. All of them should find the results relevant to policy, practice, and research interests and needs, and to training and educational requirements for people involved in parks and protected areas.

In applying the CNPPA guidelines to Awenda the recommended steps for application by CNPPA were followed as closely as possible, in terms of available time and information sources. A few adjustments were made in these steps, for example: data output was not compared with national accounts as recommended in Step 6; social and other factors were not included in any detail as recommended in Step 7; and full input/output tables or comparable models were not utilized. In this respect it seems likely that the full implementation of Steps 6 and 7 and of full models like input/output are not feasible where the intent is to do a relatively quick initial evaluation with relatively inexperienced personnel. The modified steps are shown on Table 2.

The CNPPA guidelines also consist of modules for estimating the economic value of various functions or services of protected areas, for example: tourism and recreation; financial costs of protected area administration; natural services; water production; mitigation of natural disasters; fish spawning and breeding; food and fibre hunting and gathering; natural phenomenon causing damage; and displaced economic activity. Each of these modules focuses on identifying activities which

1. Identify target audience.
2. Identify funding and resources.
3. Locate specialists at the universities, and park agencies.
4. Identify variables of interest in terms of results, and application of guidelines.
5. Decide on direct effects, and limited indirect effects to be considered.
6. No comparison initiated or considered with national or regional accounts.
7. Limited social factors considered, none quantified.
8. Decide on structure of report.
9. Identify physical activities leading to financial transactions.
10. Conduct research.
11. Apply valuation modules, and develop Volunteer Group Operations, and Unmonitored Visitors modules.
12. Process data into financial terms.
13. Calculate indirect and induced effects.
14. Aggregate results.

Table 2: Modified Decision Path

may have some financial value, often through opportunity cost analysis, or similar methods.

As suggested in the CNPPA guidelines the valuation modules were not found to be comprehensive enough for the Awenda study. Additional services and functions such as the educational values of the park to local school boards, and watershed management were identified and considered or explored, but not estimated in any detail in the Awenda study. Such services, functions or values need to be dealt with more fully in any future economic evaluations of Awenda Provincial Park, and carefully considered and reviewed in economic evaluations of other parks as well.

The Awenda study incorporated the 40 kilometre boundary for identifying the local area of economic influence, as is the practice of the Ontario Ministry of Natural Resources. The CNPPA guidelines do not recommend a boundary for delineating the "local" area in the study.

The CNPPA guidelines recommend that results be presented in the form of income, and financial output so that they may be incorporated into national accounts for comparative purposes in the future. In the Awenda study, results were left in income, and financial output, but no comparison was made to national accounts, primarily due to the lack of time and resources.

The CNPPA guidelines do not make a clear statement as to the number of data years to be considered in the application of the guidelines; although instruction on the recreation and tourism valuation module refers to results on a yearly basis (such as the dollar amount per year, number of visitor days per year). The inclusion of one year of data provides a limited and static image of the contribution of the park or protected area. The Awenda study analyzed one year of data in illustrating the application of the CNPPA guidelines, since this data was available from Ontario Parks and the researcher's time and resources prevented further work.

Within the time, resource, and other constraints noted above, the results of the application of the modified CNPPA guidelines to Awenda illustrate that the park did make an important contribution to the local economy during the 1994 season (Table 3). The Awenda application revealed areas where there is clearly financial value associated with the provincial park, but additional research is needed in order to make a more accurate estimate. Most notable in this regard are: the educational value of the park to local school boards, the role of the park in watershed management, and displaced economic activity as a result of the existence of the park.

Tourism and Recreation	\$3 800 000
Park Administration	\$772 000
Unmonitored Visitors	\$486 000
Volunteer Contributions	\$7 000
Total Estimated Local Resident Expenditures	\$102 000
Total Non-Local Originating Dollars	\$4 963 000

Table 3: Total Overall Resulting Values

Comparison with Three Other Evaluations of Parks and Protected Area Programs in Canada

After completion of the Awenda Provincial Park evaluation, the study was expanded to include a comparison with other economic studies of protected areas in Canada. The reasoning here was that such a comparison could provide more information on the strengths and challenges of the Awenda study and also of the CNPPA guidelines on economic evaluation of parks and protected area programs more generally. No other applications of the CNPPA guidelines in Canada were known to be available at the time of commencement of the Awenda study. The Awenda study was compared to related studies such as *The Current and Future Economic Benefits of British Columbia Parks* by Coopers and Lybrand (1996); *The Benefits of Canadian Heritage Rivers System* by the Outspan Group (1997); and *Economic Impacts of Provincial Parks in Ontario* by Econometric Research Limited (1992).

A comparative analysis and assessment of these three case studies and the Awenda study was undertaken based on a review of the final reports of these three studies, and the results of the Awenda study to that point in time. A set of criteria or concepts was developed as a framework for comparative analysis and evaluation. This set of criteria more or less paralleled and formalized concepts that had been used to conduct the Awenda economic evaluation. The resulting criteria and concepts are listed and briefly described below (Table 4).

Context	<ul style="list-style-type: none"> • the motivation • goals and objectives • target audience, i.e., agencies, groups, and individuals the study is intended to reach • expected product(s), to whom they are to be delivered
Scope	<ul style="list-style-type: none"> • services and functions to be analyzed and evaluated • the budget and personnel, and other resources • timing, schedule, period of study • time or historical period to be covered in the study • spatial extent/scale of study • other
Methods of study	<ul style="list-style-type: none"> • theory or underlying concepts considered and used • methods or techniques • conducting or implementation of research • other
Relevant data	<ul style="list-style-type: none"> • range of data used in such studies • categories or classes of data used: <ul style="list-style-type: none"> - measures or indicators of direct use of services functions or values - measures or indicators of indirect or secondary use of services functions or values - other measures or indicators of use, services, functions or values • kinds of data generally used: quantitative; qualitative; combinations
Results	<ul style="list-style-type: none"> • products in form of reports, various publications • findings in terms of economic measures of services, functions and values • strengths and limitations of the approach, theory, methods and techniques • recommendations • follow-up • other

Table 4: Criteria for Comparison

Most of the criteria or concepts on Table 4 are self explanatory. However some comments can help make the meaning or intent of others clearer. With reference to *scope* for example, the utility of a park or protected area program can be referred to in various ways, such as the services provided, the functions performed or the values offered by the area. In the Awenda study these included recreation and tourism, park administration, volunteer group operations, and unmonitored visitors. The other three studies address sometimes similar, and sometimes somewhat different services, functions, values or even benefits.

With reference to *method of study* the criterion or subcriterion of *theory* used in this study is intended to determine whether certain relevant theory was recognized in the conduct of the study or whether theory was assumed or built indirectly or implicitly into the study. The subcriterion of *methods and techniques* refers to the approaches or tools used in the studies, for example, benefit cost, multipliers, reliance on existing literature, secondary sources, primary research, interviews.

With respect to the *relevant data* criterion the first subcriterion on *range of data used* in such studies is intended to capture the kinds of data employed in economic studies. The kind of data used can influence the usefulness of a study. The term

range of data used refers not so much to initial or raw data—data from primary or secondary sources—as to the way the data is organized or used to indicate or measure certain services, functions or values. Examples are visitor days, visitor expenditures, visitor origins, employment and tax revenues, as well as the indices or other ways in which data are expressed after analysis in input-output, benefit cost, or other means. This subcriterion is not intended to be comprehensive, nor to indicate the broad theoretical range of choice available to researchers in terms of the ways in which data can be organized and used in economic evaluations of parks and protected areas. Rather it is intended to indicate some of the common ways that data are presented so that other potential economic researchers of parks and protected areas can get a grasp of what is possible in organizing data to provide for better understanding of economic effects of parks and protected areas.

The next subcriterion on *categories or classes of data generally used* breaks the data down or organizes it into the general kinds or classes used to measure the more immediate or direct, as well as the indirect or secondary effects as these carry on through other businesses or enterprises that feed into or out of parks and protected areas. Examples are gas and other supplies, groceries, restaurants and other services. This subcriterion of *categories or classes of data used* is organized into sub classes—direct, indirect, and other indicators of use – so that kinds of data used and reported in each of the four case studies can be seen and compared in terms of their strengths and their challenges for a complete understanding of the economic effects of the services, functions, and values that a protected area offers to society.

In this regard the other measures or indicators used in *categories and classes of data used* are intended to capture other relevant information, for example that needed to estimate effects of alternative uses, services, functions or values, such as forestry, fishing or mining which could be carried out in lands and waters that are committed to parks or protected areas.

The foregoing remarks are not intended to mean that economic evaluation of parks or protected areas—or for that matter of other competitive or complementary uses of candidate areas—should necessarily include an evaluation of uses, services, and functions that might be alternative to or competitive with parks and protected areas. To do so would be to extend an initial or strategic evaluation of the values of a park or protected area into a much more complex planning, management, and decision making world, involving various uses—and correspondingly more complex evaluation or assessment approaches and procedures, of the kind that Nelson and Serafin (1994) have referred to as interpretive or pluralist, and adaptive and civic.

Finally, the subcriterion on *results* should be reasonably clear. In this context the reference to *products* is intended to indicate the form in which the results were, or are to be produced—for example a written paper – and how and to whom they were communicated. The findings in terms of *economic measures* and in terms of the *strengths and challenges* of the study provide an opportunity to present the information on what people would call the dollars and cents, or financial effects of the relevant services, functions or values, as well as on the advantages and disadvantages of the approach or method used in the evaluatio—the “how” of the study.

Table 5 records a summary in highlight form of the information that arises from the application of the foregoing comparative framework to the four studies in question here. Not all of the items from the table are addressed since some are self explanatory, and others are not the primary concern of this thesis.

Readers of Table 5, and users of this study may not have the economic or other background needed to understand adequately what is meant by some of the information or references on the table, for example contingent valuation or benefits transfer process. This information can be secured by referring to the thesis on which this paper is based, and by examining the references cited therein. However, to the extent that a park manager or other potential user of economic evaluation or its results, needs an understanding of theory and methods to begin and carry out an evaluation it will be necessary to provide some means of ready access to relevant publications or other sources of advice and reference. This raises the important question of how park managers will get this knowledge. A possible means is through workshops, training courses and electronic means provided by universities, Ontario Parks, CNPPA and other agencies.

Assessing the Results of the Comparative Study

Table 5 summarizes the four studies and highlights some of the major findings. A basic finding is that there are many ways of undertaking an economic evaluation of a park or protected area. These ways or approaches can be undertaken in different contexts, for different motivations or reasons. They also vary in terms of stated goals, objectives, audiences and products. For example, the Awenda study was undertaken for much more specific and focused reasons than the other three. Economic evaluations can also clearly differ in terms of scope of services or functions under study, budget and personnel, schedule for completion, historical time period analyzed, and spatial extent of the study. Quantitatively the focus in the Awenda study was on financial output and income from recreation and tourism, park administration, volunteer groups, and unmonitored visitors. In the Awenda study other services, functions or values such as educational values, watershed management, and displaced economic activity were identified but in qualitative terms only. This is in contrast to the British Columbia (BC) and Canadian Heritage Rivers System (CHRS) studies.

The foregoing comparison leads to the conclusion that the Awenda study achieved reasonable results as an initial economic evaluation in the spirit of the CNPPA guidelines. The Awenda study was completed in one year at a direct cost of approximately \$10,000 plus the personal expenses of the researcher as a graduate student. The other four studies were much more time consuming and costly. A team of researchers was involved for the BC, CHRS and Ontario studies, and these studies were conducted by joint efforts of commissioned consultant groups and the provincial park organizations. These studies represent the more complex opportunities available for evaluations that would extend considerably beyond the intentions of the CNPPA guidelines.

Limitations of CNPPA Guidelines

The challenges in the Awenda study were, however, numerous, and were related to the data used as well as the format of the CNPPA guidelines. Through the

Criteria	British Columbia (BC)	Canadian Heritage Rivers System (CHRS)	Ontario	Awenda Study
Title of study	Current and Future Economic Benefits of British Columbia Parks	Benefits and Economic Impacts Associated with the Canadian Heritage River System	The Economic Impact of Provincial Park Expenditures in Ontario, 1992.	Issues Surrounding the Valuing of a Park: Applying the Commission for National Parks and Protected Area Guidelines in Ontario
Context				
Motivation	Demonstrate the contribution of BC provincial parks to provincial economy	Demonstrate the contribution of Heritage Rivers System to Canadian economy	Demonstrate the contribution of Ontario Provincial Parks to provincial economy	Test CNPPA guidelines for economic evaluation in a case study
Goals and objectives	Illustrate the contribution of provincial park related visitation in British Columbia	Illustrate that Canadian Heritage Rivers System is good investment for Canadians	Illustrate data supporting Ontario Parks role as economic generator	Estimate economic contribution of Awenda Provincial Park to the local area
Target audience	Government	Government, decision makers, nongovernment organizations	Policy makers and managers	Park personnel, CNPPA and others interested in economic evaluation of parks and protected areas, and decision makers for Awenda Park
Expected products	Report for BC Lands and Parks	Tool for illustrating value of Canadian Heritage Rivers System, The Outspan Group framework	Annual report for government	Thesis, assessment framework
Scope				
Services functions or values studied	Employment, GDP, tax revenues Consumer surplus, existence and option values	Employment, GDP, labour, tax revenues consumer surplus, societal benefits, health, conservation	Employment, output, tax revenue	Income and financial output
Budget and personnel	Not stated--employed Coopers and Lybrand consulting group and Provincial staff	Not stated--employed Outspan consulting group	Not stated--employed Econometric Research consulting group and Provincial staff and resources	One researcher, \$10,000 teaching assistantships over research period
Timing and schedule	1995 data--report released 1996	Not stated--draft released in 1997	1992 data--report released 1994	One year
Time or historical period	One year, future values to 2002	Twelve years	One year	One year
Spatial extent	British Columbia	Canada	Ontario	Local/regional area surrounding Awenda (40km)

(Continued...)

Table 5: Comparison of Four Studies.

Criteria	British Columbia (BC)	Canadian Heritage Rivers System (CHRS)	Ontario	Awenda Study
Methods of Study				
Theory or underlying concepts considered and used	Direct, indirect and induced value estimation, input/output analysis, qualitative value estimation	Direct, indirect and induced value estimation, input/output analysis, qualitative value estimation	Direct, indirect, and induced value estimation, input/output analysis	Direct and indirect value estimation, qualitative value consideration
Methods or techniques	Input/output analysis, travel cost analysis, contingent valuations, benefits transfer process	Input/output analysis, contingent valuations, benefits transfer process	Input/output analysis	Income multipliers, benefits transfer process
Conduct/ implement research	Visitor data collection, provincial reports, existing literature, staff opinion	Visitor data collection, existing literature, staff opinion, Statistics Canada reports	Visitor data collection, provincial reports, Statistics Canada reports	Provincial reports, staff opinion, existing literature
Relevant Data				
Range of data used	Visitor days, visitor origins, visitor expenditures, tax revenues	Visitor days, visitor origins, visitor expenditures, tax revenues	Visitor days, visitor origins, visitor expenditures, tax revenues	Visitor days, visitor origins, visitor expenditures
Categories or classes of data used <i>Direct use</i> <i>Indirect use</i> <i>Other</i>	Includes direct and indirect data: visitation, operations, and related industries; option, existence, and future values	Includes direct and indirect data: visitation, and related industries; health, conservation	Includes direct data: visitation, operations, and related industries	Includes direct data: visitation and related expenditures
Kinds of data used	Quantitative and qualitative	Quantitative and qualitative	Quantitative	Quantitative and qualitative
Results				
Products	Report for BC Ministry of Environment Lands and Parks	Report for Canadian Heritage Rivers Board	Summary report for Ministry of Natural Resources and interested parties	MES Thesis, report for Ontario Parks and CNPPA
Findings on services functions and values	Supports continued development of BC parks; illustrates contribution of BC parks	Highlights need for additional research and development of monitoring; illustrates contribution of CHRS	Encourages continued support of Ontario Provincial Parks; illustrates contribution of provincial parks; acknowledges need for more extensive research	Encourages first run evaluations of protected areas, highlights adjustments needed in CNPPA guidelines and similar evaluative projects in general
Recommendations	Not stated	Additional research, develop common assessment frameworks for implementation, undertake smaller scale studies, continue with cooperative arrangements	Not stated	Develop assessment framework, research adjustments in general and in regards to CNPPA guidelines
Follow-up	Not stated	Not stated	Annually	Recommended

Table 5 (Continued): Comparison of Four Studies

course of the Awenda application a number of data limitations became apparent. The visitor surveys did not address the amount of money spent by day visitors on accommodation – presumably a significant value given the small numbers of visitors from the local area. In addition, durable goods were not included in the estimates of visitor expenditures related to the park. Also related to the data used in the study is the question of the suitability of the income multipliers. It may be reasonable to suggest that these provincial multipliers over estimate the indirect effects in a rural region such as Awenda. Therefore, in studies of the local effects of parks and protected areas – such as the Awenda study – the researcher could avoid over estimation of the economic effects by foregoing the use of multipliers.

The CNPPA guidelines demonstrated limitations in the application to Awenda Provincial Park with regards to the nature of the recommended decisions path, the exclusion of non-market values, the exclusion of tax implications, and in lack of definition of the 'local' area. The decision path recommended in the CNPPA guidelines could be interpreted rigidly, which would take away from the applicability of the guidelines. The guidelines need to encourage the researcher to interpret the guidelines flexibly – molding the guidelines to fit the situation of the park or protected area being evaluated.

The draft of the CNPPA guidelines applied in the Awenda study did not consider non-market values in the evaluation. This exclusion can be seen as a limitation in that it suggests that the CNPPA guidelines underestimate the value of parks or protected areas. However the inclusion of non-market values such as option, bequest, or existence values may make the application of the CNPPA guidelines too complicated for its intended users – park managers, local interest groups, decision makers. In addition, to include non-market values would extend the evaluation – both in terms of scope, and in practical terms such as budget, time, and required expertise – again, beyond that intended by the CNPPA guidelines.

The CNPPA guidelines did not consider tax implications of park or protected area operations in the recommended valuation modules. The financial value of taxation as it is related to parks or protected areas is a significant value – especially with regards to property taxes collected by municipalities. Although the forgone tax dollars may not be recoverable, by developing an understanding of the local areas' relationship with the park the researcher can have a fuller understanding of the role of the park in the region.

The CNPPA guidelines do not provide a definition for the 'local' area. Ontario Parks uses a 40 kilometre boundary to designate the local area around a park, which was applied in the Awenda application. The definition of the local area will influence the way in which data are collected. In addition, the definition of the local area will influence the way in which multipliers are used in the study—if they are used at all.

Other challenges encountered in the CNPPA application included the need for more information on economic theory and methods at the outset and for more time, data and other factors as the study proceeded. These were not—and probably could not have been—envisioned at the start. These challenges will not be consid-

ered in any more detail here as they are covered in the following section on recommendations.

Recommendations for the CNPPA and other Economic Evaluations of Park or Protected Areas

Specific areas requiring attention were identified throughout this paper, and are listed in detail below. These suggestions refer to research and procedural practices undertaken in the course of economic assessments, and may benefit those applying the CNPPA guidelines, as well as other economic assessments in general.

The primary recommendation is to conduct a Research Assessment and Design at the outset of any proposed economic evaluation of a park or protected area. This Research Assessment and Design will result in the proponents of a study considering many of the contextual, theoretical, methodological, data, time, resource and other challenges to be faced in an economic study—an asset in deciding if, when, and how an evaluation should be carried out. The Research Assessment and Design could follow the comparative outline for economic evaluation prepared for the four studies analyzed in this chapter in Table 4. Particular attention should probably be paid to the following:

- Undertake a thoughtful review of the entire set of criteria and consider their relevance and implications for a proposed evaluation.
- Carefully consider the context and especially the motivation, objectives, and products of the assessment in order to help determine the direction the study is to take. For example, if the objective of the study is to improve the cooperation between local interest groups and the park, and local interest is in watershed management, the modules employed should contribute to that objective, as should the resulting product – report, workshop, or video.
- Carefully consider the resources available for the study, with respect to budget, research qualifications, time, and spatial and historical extent of the study. This will help determine the feasibility, scope, methods, and products or results to be expected.
- Consult knowledgeable people – for example academics, or local experts – and reference relevant literature on theory, methods, and practices especially at the outset, and also throughout the study. The CNPPA could assist here by providing a list of possible sources of advice and a short annotated bibliography of relevant economic assessment publications for use by researchers.
- Carefully consider the area over which the services, functions and values are to be estimated and how this will involve the goals and objectives of the study – the available time and resources, available data, and the extent to which cooperation and support are available from economic and other experts, park personnel, local people and others involved in the project.
- Attention must be paid to addressing the initial goals and objectives identified at the outset of the study in preparing products of the study, and conducting follow up analysis and recommendations for interested parties. Interested parties include local politicians, park managers, community groups, and residents.

- Allow for adjustments in the guidelines in accordance with local interests and other constraints – as communicated by local politicians, park managers, community groups, and residents.

Recommendations Regarding Awenda Provincial Park

Additional recommendations can be made for the Awenda Provincial Park staff and others interested in continuing research on the role of the park economically in its local area and beyond. The following are suggestions for follow up to the Awenda study:

- Explore the role of Awenda Park in attracting visitors to the area, such as the adjacent cottage area, and Giant's Tomb Island.
- Develop greater communication between local economic development groups—such as the Chamber of Commerce, and regional tourism board—on the role of Awenda Park in the region in terms of economic and social contributions.
- Consider the development of ongoing monitoring of uses relating to Awenda Park, and other natural areas and economic activities in the region—such as the relationship between parks and wetlands, agriculture and forest stands.
- Develop cooperative arrangements with local school boards on educational programs, and research initiatives within Awenda Park and surrounding area. For example a program of field studies or other research opportunities for high schools.
- Explore the financial value of the park in educational terms – as in the form of a living classroom, and in development of curriculum.
- Consider extending the Awenda study spatially, by exploring the relevance of the 40 kilometre boundary for the local region. In addition, a number of year's results could give useful monitoring information over time, and provide a more rounded estimate of values.

Conclusion

The above recommendations should aid in completing an economic evaluation of the values of a park or protected area, and will help users of the CNPPA guidelines to realize the benefits of these guidelines as a first run framework for economic assessment of parks or protected areas in Ontario.

Clearly there are many additional areas to which value could have been assigned, such as natural services, water maintenance, habitat preservation. However, even this initial survey of the benefits of the natural environment preserved within the boundaries of Awenda Provincial Park has clarified areas where continued research and data collection can produce an economic value for park managers and policy makers alike. This application has also brought to light other areas where attention is required in order to make the application of these guidelines a more reliable and valid tool for protected area managers. The main issues encountered include definitions of scope, boundary, and operational terms such as value, natural, and visitor. Data availability, data collection techniques, and resource allocation are also prominent issues, as are selected methods of assigning and manipulating values.

The purpose of this study was to apply the CNPPA guidelines to a provincial park in Ontario and evaluate the guidelines as an approach to valuing protected areas

in financial terms. The study was expanded to include a comparison of the CNPPA application to three studies on valuing protected areas in Canada. The results of the application and comparison have revealed a number of characteristics attributable to the CNPPA guidelines as they have been applied here.

The study has shown that the CNPPA guidelines have a very specific niche. The guidelines meet their defined purpose of estimating financial values attributable to parks or protected areas, although in the Ontario application the value is considered an underestimation. The guidelines have proven to be an inexpensive tool in terms of labour and funding required – this means that the guidelines could be feasibly applied to parks or protected areas given enthusiastic and committed participation and support from sources of expertise and advice, park personnel, and others.

It has been shown that the CNPPA guidelines can be applied in Ontario. However for these guidelines to be used as a basis for comparing the economic values of various parks or protected areas, a more complete assessment is required, and more parks and protected areas need to use the guidelines as a method of evaluation. The major contribution of this study is to show that the CNPPA guidelines provide a sound basis for an initial assessment of the economic value of a park or protected area.

Notes

¹ The assumption here is that the protected area in question will not provide for forestry, mining or other extractive uses within its boundaries.

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